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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,165	12/05/2003	Krishna Prasad Chitrapura	JP920030160US1	8575
7590 Frederick W. Gibb, III McGinn & Gibb, PLLC Suite 304 2568-A Riva Road Annapolis, MD 21401		11/01/2007	EXAMINER VO, HUYEN X	
			ART UNIT 2626	PAPER NUMBER
			MAIL DATE 11/01/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/729,165

Applicant(s)

CHITRAPURA ET AL.

Examiner

Huyen X. Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 5-10, 12, 13, 15-19 and 29-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-10, 12, 13, 15-19 and 29-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3, HV</u>                                                     | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection in view of Grefenstette (US 6289304) and Chase (US 6418435) necessitated by claim amendment and introduction of new claims.

### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 10, 12-13, 15-19, 30, and 32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

3. Claims 10, 12-13, 15-19, 30, and 32 are drawn to a "program" *per se* as recited in the preamble (*paragraph 45 of the specification defines that "storage device 455 can include a disk drive or any other suitable storage medium." Thus, the claimed computer-readable medium can be considered as a carrier wave, which is a non-statutory subject matter*) and as such is non-statutory subject matter. See MPEP § 2106.IV.B.1.a. Data structures not claimed as embodied in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed

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data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 33-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Subasic et al. (US 6721734).

6. Regarding claim 33, Subasic et al. disclose a method of analyzing expressed opinions comprising the steps of:

parsing words of at least one text-based document comprising opinions as parts of speech tag sequences (*element 102 in figure 2 or col. 3, lines 18-35*), wherein said opinions comprise at least one of sentiments and connotations towards a topic (*a document, sentence, or phrase would inherently includes sentiments or expressions and connotations indicating the meaning of the document, sentence, or phrase*), and wherein parts of speech tag sequences of said opinions comprise regularly occurring patterns (*POS are keywords that convey the meaning of the document, sentence, or phrase*);

extracting regular expressions from said document by matching at least one regular expression rule with said parts of speech tag sequences, wherein said regular expression rule comprises said regularly occurring patterns (*element 112 in figure 2, extracted POS is compared with entries of the lexicon 104*);

categorizing said regular expressions as said opinions within categories of semantic orientation, said categorizing comprising analyzing words comprising said regular expressions (*elements 114 and 106 in figure 2 or referring to col. 3, line 36 to col. 12, line 67*); and

marking said opinions in said document with classification tags, wherein each of said classification tags correspond to one of said categories of semantic orientation (*col. 3, lines 18-36*).

7. Regarding claims 34-35, Subasic et al. further disclose the method of claim 33, wherein said categories of semantic orientation comprise positive sentiment and negative sentiment (*referring to col. 3, line 36 to col. 12, line 67*), wherein the categories of semantic orientation comprise favorable, unfavorable and indifferent (*referring to col. 3, line 36 to col. 12, line 67*).

8. Regarding claims 36-39, Subasic et al. further disclose the method of claim 33, further comprising the step of storing a collection of regular expression rules (*affect lexicon 104 in figure 2*), and comprising the step of organizing said opinions into groups, wherein said opinions within each of said groups each comprise a similar topic (*affect lexicon 104 in figure 2*), wherein said categorizing of said regular expressions comprises accessing a natural language database to determine semantic orientations of said words comprising regular expressions (*steps 112 and affect lexicon 104 in figure 2*), and wherein said categorizing of said regular expressions comprises identifying at least one of synonyms and antonyms for words comprising said regular expressions (*col. 5, line 66 to col. 6, line 7, thesaurus or synonym*).

9. Regarding claim 40, Subasic et al. further disclose the method of claim 33, wherein said categorizing of said regular expressions comprises determining semantic orientations of morphological stems for said words comprising said regular expressions (*col. 3, line 36 to col. 12, line 67*).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-3, 5-10, 12-13, and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Subasic et al. (US 6721734) in view of Grefenstette (US 6289304).

12. Regarding claims 1 and 10, Subasic et al. disclose a method and computer program product of analyzing expressed opinions comprising the steps of:

parsing words of at least one text-based document comprising opinions as parts of speech tag sequences (*element 102 in figure 2 or col. 3, lines 18-35*), wherein said opinions comprise at least one of sentiments and connotations towards a topic (*a document, sentence, or phrase would inherently includes sentiments or expressions and connotations indicating the meaning of the document, sentence, or phrase*), and wherein parts of speech tag sequences of said opinions comprise regularly occurring patterns (*POS are keywords that convey the meaning of the document, sentence, or phrase*);

extracting regular expressions from said document by matching at least one regular expression rule with said parts of speech tag sequences, wherein said regular expression rule comprises said regular expression rule comprises said regularly

occurring patterns (*element 112 in figure 2, extracted POS is compared with entries of the lexicon 104*); and

categorizing said regular expressions as said opinions within categories of semantic orientation, said categorizing comprising analyzing words comprising said regular expressions (*elements 114 and 106 in figure 2 or referring to col. 3, line 36 to col. 12, line 67*).

Subasic et al. fail to specifically disclose the step of graphically displaying said categories of semantic orientation, wherein said displaying comprises displaying relative proportions of said opinions in said categories of semantic orientation. However, Grefenstette teaches the step of graphically displaying said categories of semantic orientation, wherein said displaying comprises displaying relative proportions of said opinions in said categories of semantic orientation (*col. 9, lines 1-7*).

Since Subasic et al. and Grefenstette are analogous art because they are from the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Subasic et al. in order to provide the user a summary of the text document.

13. Regarding claims 2-3 and 12-13, Subasic et al. further disclose the method, computer program product, and computer system of claims 1, 10, and 20, respectively, wherein said categories of semantic orientation comprise positive sentiment and negative sentiment (*referring to col. 3, line 36 to col. 12, line 67*), wherein the categories



of semantic orientation comprise favorable, unfavorable and indifferent (*referring to col. 3, line 36 to col. 12, line 67*).

14. Regarding claims 5-8, and 15-18, Subasic et al. further disclose the method, computer program product, and computer system of claims 1, 10, and 20, respectively, further comprising the step of storing a collection of regular expression rules (*affect lexicon 104 in figure 2*), and comprising the step of organizing said opinions into groups, wherein said opinions within each of said groups each comprise a similar topic (*affect lexicon 104 in figure 2*), wherein said categorizing of said regular expressions comprises accessing a natural language database to determine semantic orientations of said words comprising regular expressions (*steps 112 and affect lexicon 104 in figure 2*), and wherein said categorizing of said regular expressions comprises identifying at least one of synonyms and antonyms for words comprising said regular expressions (*col. 5, line 66 to col. 6, line 7, thesaurus or synonym*).

15. Regarding claims 9 and 19, Subasic et al. further disclose the method, computer program product, and computer system of claims 1, 10, and 20, respectively, wherein said categorizing of said regular expressions comprises determining semantic orientations of morphological stems for said words comprising said regular expressions (*col. 3, line 36 to col. 12, line 67*).

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16. Regarding claims 29-30, Subasic et al. further disclose the method and computer program product of claims 1 and 10, further comprising marking said opinions in said document with classification tags, wherein each of said classification tags correspond to one of said categories of semantic orientation (*col. 3, lines 27-36*).

17. Claims 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Subasic et al. (US 6721734) in view of Grefenstette (US 6289304), and further in view of Chase (US 6418435).

18. Regarding claims 31-32, Subasic et al. fail to specifically disclose the method and computer program product of claims 1 and 10, wherein said graphically displaying comprises displaying said categories of semantic orientation using at least one of a pie-chart and a bar-chart. However, Chase further teaches the step of graphically displaying comprises displaying said categories of semantic orientation using at least one of a pie-chart and a bar-chart (*figure 3*).

Since Subasic et al. and Chase are analogous art because they are from the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Subasic et al. by incorporating the teaching of Chase in order to provide the user a range of connotative information relating to the user's query.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HXV

10/19/2007

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A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the left.